

- ID NO:87, a CDRH3 comprising the amino acid sequence of SEQ ID NO:88;
- (i) a CDRH1 comprising the amino acid sequence of SEQ ID NO:62, a CDRH2 comprising the amino acid sequence of SEQ ID NO:63 a CDRH3 comprising the amino acid sequence of SEQ ID NO:64, a CDRL1 comprising the amino acid sequence of SEQ ID NO:65, a CDRH2 comprising the amino acid sequence of SEQ ID NO:66, a CDRH3 comprising the amino acid sequence of SEQ ID NO:67; or
- (j) a CDRH1 comprising the amino acid sequence of SEQ ID NO:65, a CDRH2 comprising the amino acid sequence of SEQ ID NO:66, a CDRH3 comprising the amino acid sequence of SEQ ID NO:67, a CDRL1 comprising the amino acid sequence of SEQ ID NO:95, a CDRH2 comprising the amino acid sequence of SEQ ID NO:96, a CDRH3 comprising the amino acid sequence of SEQ ID NO:97.
2. The antibody or antibody fragment of claim 1, wherein the antibody or fragment comprises
- (a) a heavy chain variable sequence comprising the amino acid sequence of SEQ ID NO:33 and/or a light chain variable sequence comprising the amino acid sequence of SEQ ID NO:34;
- (b) a heavy chain variable sequence comprising the amino acid sequence of SEQ ID NO:39 and/or a light chain variable sequence comprising the amino acid sequence of SEQ ID NO:40;
- (c) a heavy chain variable sequence comprising the amino acid sequence of SEQ ID NO:21 and/or a light chain variable sequence comprising the amino acid sequence of SEQ ID NO:22;
- (d) a heavy chain variable sequence comprising the amino acid sequence of SEQ ID NO:23 and/or a light chain variable sequence comprising the amino acid sequence of SEQ ID NO:24;
- (e) a heavy chain variable sequence comprising the amino acid sequence of SEQ ID NO:25 and/or a light chain variable sequence comprising the amino acid sequence of SEQ ID NO:26;
- (f) a heavy chain variable sequence comprising the amino acid sequence of SEQ ID NO:27 and/or a light chain variable sequence comprising the amino acid sequence of SEQ ID NO:28;
- (g) a heavy chain variable sequence comprising the amino acid sequence of SEQ ID NO:29 and/or a light chain variable sequence comprising the amino acid sequence of SEQ ID NO:30;
- (h) a heavy chain variable sequence comprising the amino acid sequence of SEQ ID NO:31 and/or a light chain variable sequence comprising the amino acid sequence of SEQ ID NO:32;
- (i) a heavy chain variable sequence comprising the amino acid sequence of SEQ ID NO:35 and/or a light chain variable sequence comprising the amino acid sequence of SEQ ID NO:36; or
- (j) a heavy chain variable sequence comprising the amino acid sequence of SEQ ID NO:37 and/or a light chain variable sequence comprising the amino acid sequence of SEQ ID NO:38.
3. The antibody or antibody fragment of claim 1, wherein the antibody or fragment is monoclonal.
4. The antibody or antibody fragment of claim 1, wherein the antibody or fragment comprises a YTE mutation.

5. The antibody or antibody fragment of claim 1, wherein the antibody or fragment is an IgG, or a recombinant IgG antibody or antibody fragment comprising an Fc portion mutated to alter (eliminate or enhance) FcR interactions, to increase half-life and/or increase therapeutic efficacy, such as a LALA, LALA PG, N297, GASD/ALIE, DHS, YTE or LS mutation or glycan modified to alter (eliminate or enhance) FcR interactions such as enzymatic or chemical addition or removal of glycans or expression in a cell line engineered with a defined glycosylating pattern.

6. The antibody or antibody fragment of claim 1, wherein the antibody or antibody fragment is able to bind RBD in the “up” and “down” conformations. The antibody or antibody fragment of claim 1, wherein the antibody or antibody fragment is able to bind RBD in the “up” conformation and is not able to bind RBD in the “down” conformation.

8. The antibody or antibody fragment of claim 1, wherein the antibody or antibody fragment further comprises a detectable label.

9. A method of treating a subject infected with SARS-CoV-2 or reducing the likelihood of infection of a subject at risk of contracting SARS-CoV-2, comprising delivering to the subject a first antibody or antibody fragment of claim 1.

10. A method of protecting the health of a subject of age 60 or older, an immunocompromised, subject or a subject suffering from a respiratory and/or cardiovascular disorder that is infected with or at risk of infection with SARS-CoV-2 comprising delivering to the subject comprising delivering to the subject a first antibody or antibody fragment of claim 1.

11. The method of claim 9, wherein the method further comprises delivering to the subject a second antibody or antibody fragment that binds to a SARS-CoV-2 surface spike protein.

12. A method of treating a subject infected with SARS-CoV-2 or reducing the likelihood of infection of a subject at risk of contracting SARS-CoV-2, comprising delivering to the subject a first antibody or antibody fragment and a second antibody or antibody fragment, wherein the first and second antibodies or antibody fragments are synergistic in neutralizing SARS-CoV-2.

13. The method of claim 11, wherein the first antibody or antibody fragment and the second antibody or antibody fragment have a synergy score of 17.4; wherein the dose of the first antibody or antibody fragment and the second antibody or antibody fragment can be reduced by more than 3 times the dose of the first antibody or antibody fragment or the second antibody or antibody fragment alone to achieve the same potency in virus neutralization; and/or wherein the first antibody or antibody fragment is able to bind to RBD in the “up” confirmation and is not able to bind to RBD in the “down” confirmation and/or wherein the second antibody or antibody fragment is able to bind RBD in both “up” and “down” conformations.

14. The method of claim 11, wherein the first antibody or antibody fragment comprises a CDRH1 comprising the amino acid sequence of SEQ ID NO:59, a CDRH2 comprising the amino acid sequence of SEQ ID NO:60, a CDRH3 comprising the amino acid sequence of SEQ ID NO:61, a CDRL1 comprising the amino acid sequence of SEQ ID NO:89, a CDRH2 comprising the amino acid sequence of SEQ ID NO:90, a CDRH3 comprising the amino acid sequence of SEQ ID NO:91 and/or wherein the second antibody or antibody fragment comprises a CDRH1